S. David Freeman 33 Reef Street, Number 6 Marina del Ray, CA 90292

Richard E. Ayres Ayres Law Group 1615 L Street, N.W., Suite 1350 Washington, D.C. 20036

Dear Mr. Ayres:

This letter report is in response to the request of the State of North Carolina for my opinion on three aspects of the pending case of NC v. TVA. The three aspects are:

- 1. the practicality of the array of pollution control measures suggested in the expert report of Dr. James Staudt;
- 2. the financial and competitive ability of the TVA to implement those recommendations or similar actions to achieve the same pollution control objectives; and,
- 3. the necessity, reasonableness and desirability of the relief suggested by the state of North Carolina.

I am a native of Chattanooga, Tennessee and a graduate of the Georgia Institute of Technology as a civil engineer and the University of Tennessee Law School. I served as a member of the three person TVA board of directors from 1977 through 1984, and was the Chairman of the Board from 1978 through 1981. Since leaving TVA when my term expired in 1984, I have held the following positions:

- (1) General Manager (CEO) of the Lower Colorado River Authority (a smaller version of the TVA) from 1986 through 1990;
- (2) General Manager (CEO) of the Sacramento Municipal Utility District (a municipal electric utility) from 1990 through 1994);
- (3) President (CEO) of the New York Power Authority (a public power authority that was the predecessor to TVA) from 1994 through 1996;
- (4) Trustee for the formation of the Independent System Operator in the state of California, which established the infrastructure for the deregulation of electric power in California from 1996 through 1997;
- (5) General Manager (CEO) of the Los Angeles Department of Water and Power (the largest municipal electricity distributor in the United States) from 1997 through 2001;
- (6) Senior Advisor to California Governor Gray Davis during the California energy crisis of 2001;
- (7) Chairman of the California Power Authority (a statewide public power agency for the state of California) from 2001 through 2003;

(8) President of the Commission that oversees the operations of the Port of Los Angeles, the largest container port in the U.S. (current position).

I have not testified in court in the previous four years. I have not been the author of any published works in the past 10 years. I am receiving payment for my services from the state of North Carolina at the rate of \$350 per hour.

The opinions I will express on the issues identified above are as follows:

1. Practicality of the Suggested Pollution Control Measures. I have read the expert report of Dr. James Staudt. From the perspective of a Tennessee Valley Authority Director (a perspective that I have experienced for a seven year period, and a thought process that I have continued in the intervening years) Dr. Staudt's report brought back memories of a settlement that TVA agreed to when I first became a director. The staff urged me to negotiate a settlement with the state of Alabama and others, including EPA, who were suing TVA over air pollution from TVA's coal-fired plants. The control measures analyzed by Dr. Staudt are commonplace in the electric power industry today, and in my view, are clearly doable by TVA. The cost Dr. Staudt derives in his analysis is very much in line with what I have observed over the years. Indeed, Dr. Staudt's estimate appears to be in line with estimates by the Tennessee Valley Authority in its 2005 annual report, which refers to costs in the \$3-5 billion range as potentially required for air pollution control on TVA plants.

In my opinion, the TVA also has other options for dramatically reducing emissions of NOx and SO₂ emissions, since a sizable number of its power plants are nearly a half century old. The United States is well into the age of renewable energy in many states, including Texas and California. TVA could comply with the reductions sought in a manner that would be more cost-effective than the pollution control devices analyzed by Dr. Staudt, since in my opinion those renewable resources will have a lifetime cost well below that of running 50-year old power plants for another 30 years, in an era when carbon emissions are likely to be penalized.

2. Financial and competitive ability of TVA reduce emissions. I consider myself one of the most experienced people in the world on this issue, since I faced it squarely in 1977 at TVA, and have faced it at nearly every large public power utility that I have managed. Utility managers have been tempted to keep their rates low at the expense of the environment. But as we move into the 21st century, electric utility executives, both public and private, have recognized that keeping rates low at the expense of human health and the natural environment is totally unacceptable. The Tennessee Valley Authority is in the strongest competitive situation of any utility in America, in the opinion of those on whom investors rely, namely the bond rating agencies. As far as I know, TVA is the only utility with an AAA rating. But I do not rely on Wall Street for my opinion; I rely on my own experience being responsible for the finances of TVA over a seven year period during which we agreed to raise the electric rates seven per cent and invest \$1.2 billion (1978 dollars) in pollution controls very similar to those analyzed by Dr. Staudt.

Richard E. Ayres Ayres Law Group Page 3

TVA's combination of a near-monopoly service area, a sizable rate advantage over any potential competitors, the ability to borrow money at very competitive interest rates, and the absence of rate regulation by state or federal authorities is the basis for my opinion that the investment required by the State of North Carolina's proposal would not erode TVA's competitive position in any meaningful way. I have read the expert report of Dr. Susan Tierney, and have read innumerable analyses of TVA's financial and competitive position over the years. In my opinion, Dr. Tierney's report is the most unbiased, factual, and penetrating analysis that I have ever read, and I agree with her conclusions based on my own independent experience and knowledge of that subject.

In my view the potential four per cent cumulative increase in rates identified in her report is the maximum that might be incurred. It is my opinion that the impact on TVA ratepayers can be, and probably will be, much less than four per cent.

As to the possibility of TVA losing business as a result of the increased cost of compliance, there is absolutely zero risk of a so-called "death spiral." The great bulk of TVA's distributors are receiving electricity from TVA at rates that, even if increased 5-10 per cent, would still be well below what competitors could offer on a long-term basis.

3. The necessity, reasonableness and desirability of the relief. The TVA has an outstanding record over the years for being a yardstick by which other utilities are measured. Certainly that yardstick is not 36 inches long if it does not include being at the forefront of environmental protection.

I testify with sadness and regret that the current Tennessee Valley Authority management needs a nudge from its neighbors in order to do what clearly is required for environmental stewardship. It would seem to me that the additional pollution controls analyzed by Dr. Staudt, or a comparably effective alternative, is not only desirable, but absolutely necessary if TVA is to live up to its lifelong reputation, which it continues to profess, as an environmental leader.

The pollution controls suggested by the State of North Carolina are well within the mainstream of actions by the Tennessee Valley Authority to maintain its lifelong reputation for leadership, to do justice to the people in neighboring states, and to protect the citizens of the Tennessee Valley who are bearing the main health and environmental effects of the pollutants emitted by the TVA plants.

Sincerely yours.

S. David Freeman